UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,291	07/11/2003	Imad Qashou	PG16044P0971US	4377

32116 7590 03/25/2005

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 3800
CHICAGO, IL 60661

EXAMINER	
SINGH, ARTI R	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,291	QASHOU ET AL.	
	Examiner	Art Unit	
	Ms. Arti Singh	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5560794 issued to CURRIE et al.

3. Currie et al disclose an absorbent, abrasive composite composite nonwoven web (42) may include at least four layers with two of the layers being formed by meltblowing (10, 54) and two of the layers being supporting carrier layers (14, 58). One of the meltblown layers is an abrasive surface layer (10) formed from a coarse, shot-laden meltblown layer (10) while another meltblown layer is disposed in the interior of the composite web (42) and is adapted to provide absorbency characteristics to composite. The carrier layers (14,58) may be formed from spunbonded webs. The abrasive surface layer (10) and its supporting carrier layer (14) are joined together by hot pin aperturing (abstract). The hot pin aperturing if the layers provides a three dimensional effect (column 2). Typically, the depth of penetration of the pins of the pin roller should be at least about 0.061 inches (0.155 centimeters). For example, the depth of penetration of the pins of the pin roller may range from about 0.061 inches (0.155 centimeters) to about 0.100 inches (0.254 centimeters). More particularly, the depth of penetration of the pins of the pin roller may range from about 0.071 inches (0.180 centimeters) to about 0.095 inches (0.241 centimeters). Even more particularly, the depth of penetration of the pins of the pin roller may range from about 0.081 inches (0.206

centimeters) to about 0.091 inches (231 centimeters). The pressure in the nip created by the pin roller and the apertured roller may vary from about 60 to about 110 pounds per square inch, gauge (psig). For example, the pressure in the nip created by the pin roller and the apertured roller may vary from about 70 to about 110 pounds per square inch, gauge (psig). More particularly, the pressure in the nip created by the pin roller and the apertured roller may vary from about 90 pounds per square inch, gauge (psig) to about 110 pounds per square inch, gauge (psig). For example, the pressure in the nip created by the pin roller and the apertured roller may be about 100 pounds per square inch, gauge (psig). The pin and apertured rollers serve to mold the fibers of the coarse, shot-laden meltblown layer and the fibers of the supporting carrier layer into a three-dimensional generally conical shape. Elevation of the temperature of the pin aperturing apparatus serves to lock the apertured surface into the three-dimensional shape formed when the heated pins penetrate through both the coarse, shot-laden layer and its supporting carrier layer into the apertured roller. Accordingly, the surface area of the apertured layers is increased. Additionally, the three-dimensional stabilized structure presents a much more aggressive abrasive medium for the removal of coarse dry dirt when the material is utilized as part of a wiper. Moreover, the three dimensional structure provides macro-pits and macro-troughs which act to entrap dirt in addition to the dirt trapping ability of the voids of the coarse, shot-laden meltblown layer. Lastly, it can also be stated that the apertures facilitate the transfer of liquid through the composite web when it is being utilized to wipe up liquids (column 3). The carrier layers on the present invention may be formed by a wide variety of processes. For example, the carrier layers may be formed by spunbonding processes, bonded-carded web forming processes or meltblowing processes. In some embodiments both the meltblown and the

carrier layers may be formed from a thermoplastic material selected from the group of materials including one or more polyolefins, polyesters, polyethers. polyvinyl chlorides and polyamides. Copolymers or mixtures of one or more of these materials may also be desirable. For example, the meltblown and carrier layers may be formed from polyethylene, polypropylene, polybutylene or ethylene vinyl acetate. More particularly, the meltblown and carrier layers may be formed from a thermoplastic polypropylene material. In some embodiments, the meltblown and carrier layers may be formed from a thermoplastic polypropylene material. Typically, the basis weight of the coarse, meltblown surface layer ranges from about 40 to about 100 grams per square meter. For example, the basis weight of the coarse, meltblown surface layer may range from about 60 to about 80 grams per square meter. More particularly, the basis weight of the coarse, meltblown surface layer may range from about 60 to about 70 grams per square meter. Typically, the basis weight of the fine, absorbent, meltblown layer ranges from about 150 to about 200 grams per square meter. For example, the basis weight of the fine, absorbent, meltblown layer may range from about 160 to about 190 grams per square meter. More particularly, the basis weight of the fine, absorbent, meltblown surface layer may range from about 170 to about 180 grams per square meter. Typically, the basis weight of the carrier layer adjacent the coarse, meltblown surface layer ranges from about 40 to about 90 grams per square meter. For example, the basis weight of the carrier layer adjacent the coarse, meltblown surface layer may range from about 45 to about 70 grams per square meter. More particularly, the basis weight of the carrier layer adjacent the coarse, meltblown surface layer may range from about 50 to about 55 grams per square meter. Typically, the basis weight of the carrier layer adjacent the fine, absorbent, meltblown layer ranges from about 10 to about 30 grams per square meter. For example, the basis weight of

the carrier layer adjacent the fine, absorbent, meltblown layer may range from about 10 to about 20 grams per square meter. More particularly, the basis weight of the carrier layer adjacent the fine, absorbent, meltblown surface layer may range from about 12 to about 18 grams per square meter. Typically, the average fiber diameter of the coarse, meltblown surface layer ranges from about 10 to about 80 microns. For example, the average fiber diameter of the coarse, meltblown surface layer may range from about 20 to about 60 microns. More particularly, the average fiber diameter of the coarse, meltblown surface layer may range from about 30 to about 50 microns. Average fiber diameter is determined optically and is determined by taking and averaging at least thirty (30) random fiber diameter measurements. Typically, the average fiber diameter of the fine, absorbent, meltblown layer ranges from about 1 to 10 microns. For example, the average fiber diameter of the fine, absorbent, meltblown layer may range from about 2 to about 5 microns. More particularly, the average fiber diameter of the fine, absorbent, meltblown surface layer may range from about 3 to about 5 microns. Typically, the average fiber diameter of the carrier layer adjacent the coarse, meltblown surface layer ranges from about 10 to about 30 microns. For example, the average fiber diameter of the carrier layer adjacent the coarse, meltblown surface layer may range from about 15 to about 25 microns. More particularly, the average fiber diameter of the carrier layer adjacent the coarse, meltblown surface layer may range from about 20 to about 25 microns. Typically, the average fiber diameter of the carrier layer adjacent the fine, absorbent, meltblown layer ranges from about 10 to about 30 microns. For example, the average fiber diameter of the carrier layer adjacent the fine, absorbent, meltblown layer may range from about 15 to about 25 microns. More particularly, the average fiber diameter of the carrier layer adjacent the fine, absorbent, meltblown surface layer may range from about 20 to about 25

microns.

The only feature not explicitly stated in the reference is the desire that the different nonwoven layers exhibit a difference in coefficient of friction of at least 10 percent. However, a skilled artisan at the time the invention was made would have provided the difference in coefficient of friction, motivated having a double sided wipe wherein one side would help pick up grim and the other wipe the surface clean, thereby having two different surface topographies in the same wipe.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-F 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ms. Arti Singh
Primary Examiner
Art Unit 1771

Ars 03/21/05